

REMARKS

This submission is in response to the Official Action dated August 5, 2003. Reconsideration of the above identified application, in view of the above amendments and the following remarks, is respectfully requested.

I. Status of the Claims

Claims 1-18 are presently pending.

Claims 1, 5, 8, 10-13, and 15 have been amended.

Claims 1-7 and 16-18 stand rejected.

Claims 8-15 are objected to.

No new matter is added.

II. Acknowledgement of Allowable Subject Matter

Applicant thanks the Examiner for the acknowledgement of allowable subject matter in claims 8-15.

III. 35 U.S.C. § 112 Rejection

Claims 1-6 and 8-15 have been rejected under 35 U.S.C. § 112, second paragraph, for being indefinite.

With regard to claim 1, the Examiner states that the critical interrelationship of the elements has not been positively recited, since the Examiner contends that it is not clear how the single adjusting means relates to the slide and press machine. However, claim 1 clearly states that the single adjusting means simultaneously adjusts the top and bottom dead center positions of the slide in the press machine by the same amount and permits an adjustment of the stroke of the slide in the press machine. Applicant submits that claim 1 defines the relationship between the single adjusting means, the slide, and the press. Thus, it is requested that the rejection be withdrawn.

With regard to claim 2, the Examiner states that it is unclear whether "said adjustment" relates to "said adjusting means" or another adjustment. Claim 1 has been amended to introduce "an adjustment," and "said adjustment" in claim 2 depends from "an adjustment" in claim 1. Applicant respectfully submits that claim 2 clearly sets forth "said adjustment," and it is requested that the rejection be withdrawn.

With regard to claim 5, the Examiner states that it is unclear whether "said connecting rod" refers to the first or the second connecting rod or both. Claim 5 has been amended to recite that "said connecting rods" to refer to the first and second connecting rods set forth in the same claim. Applicant respectfully submits that claim 5 clearly sets forth "said first and said second connecting rods," and it is requested that the rejection be withdrawn.

With regard to claim 8, the Examiner states that the critical interrelationship of the elements has not been positively recited, since the Examiner contends that it is unclear how the first linear guide and first slider relate to the claimed invention. Claim 8 has been amended to remove the first linear guide and first slider. Thus, it is requested that the rejection be withdrawn.

Furthermore, Applicant has carefully reviewed the claims, particularly claims 2, 9, 11-13, and 15 as pointed out by the Examiner, for proper recitation of critical interrelationships and antecedent bases. Thus, it is requested that the rejection over 35 U.S.C. § 112 be withdrawn. Reconsideration is respectfully requested.

IV. 35 U.S.C. § 102(b) Rejection

Claims 1-5 and 7 have been rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,012,322 to Itakura. Applicant respectfully traverses this rejection, and reconsideration is respectfully requested.

The Examiner contends that Itakura discloses a slide drive device including a slide 2 having top and bottom dead center positions and a slide adjusting device 21.

However, Itakura does not disclose a single adjusting means "permitting an adjustment of a stroke of said slide," as set forth in claims 1 and 7. Itakura's slide adjusting device 21 is disposed on the slide 2 "for adjusting a die height H" (see, Itakura, column 4, lines 44-45). However, Itakura does not disclose that the slide adjusting device 21 permits an adjustment of a stroke of the slide, as set forth in the claimed invention. Itakura does not disclose that the stroke is adjustable, but that the slide is raised and lowered according to a "prescribed stroke length S" (see, Itakura, column 4, lines 57-58). Thus, Itakura fails to disclose the single adjusting means of the claimed invention.

Itakura fails to disclose all of the elements of the present invention, as set forth in claims 1 and 7. Claims 2-5 depend from claim 1 and are therefore also patentable for at least the same reasons.

Applicant respectfully submits that for at least the aforementioned reasons, claims 1-5 and 7 of the present invention are not anticipated by Itakura.

Based on the foregoing, the rejections of claims 1-5 and 7 under 35 U.S.C. § 102(b) should be withdrawn, and reconsideration is respectfully requested.

V. 35 U.S.C. § 103(a) Rejection

Claims 6 and 16-18 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Itakura in view of the Examiner's statement of ordinary skill in the art. Applicant respectfully traverses this rejection, and reconsideration is respectfully requested.

The Examiner states that Itakura lacks the relationship between the link lengths of (a):(b)=(b):(c). The Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Itakura's links to have this relationship since the specific advantage, purpose, or problem solved by this relationship is not described in the Specification.

However, the Specification on page 15, lines 11-14, states that "center fulcrum pin 16 is provided at a position on middle link 15 where distances 'a', 'b', and 'c' are approximately represented by the relationship: $a:b=b:c$."

Furthermore, the relationship of $(a):(b)=(b):(c)$ and the positioning of small end part 17 along a horizontal line of crank shaft 4 are described in the Specification on page 15, line 16, to page 16, line 6, as follows:

the following positions are all established under the above relationship: the positions of fixed fulcrum pin 13 and first linear guide 19, the interval between fixed fulcrum pin 13 of upper link 14 and center fulcrum pin 16 [defined as 'a'], the interval between first pin 18 and center fulcrum pin 16 [defined as 'c'], and the interval between slider pin 21 and center fulcrum pin 16 [defined as 'b'].

It is further understood, that when fixed fulcrum pin 13 is on the same side as slider pin 21, with respect to a movement direction of first pin 18, the above requirements for the position of center fulcrum pin 16 is shown as an approximately linear motion mechanism of a Scott-Russell-type.

Therefore, the relationship establishes a proper positioning between the fixed fulcrum pin 13 of upper link 4, the center fulcrum pin 16, the first pin 18, the slider pin 21, and the linear guide 19. The relationship also establishes the proper positioning of the center fulcrum pin 16 so that the mechanism acts as "an approximately linear motion mechanism of a Scott-Russell-type," as stated in the Specification.

Additionally, the Specification on page 16, lines 15-16, states the following advantages:

It is to be understood, that due to the above mechanisms, the approach rate of slide 8 is lowered immediately before and after the bottom dead center position. Since the remainder of the stroke cycle must still occur during one rotation of crank shaft 4 the remainder of the slide cycle is made faster and quicker. As a result, the pressing operation is made more efficient and quality is improved.

Thus, the Specification sufficiently describes the advantage, purpose, and problem solved by the relationship.

Regarding claim 16, the Examiner contends that Itakura discloses "first and second eccentric parts operably opposing each other about a rotation center of said crankshaft," as required in claim 16. Itakura includes a pair of eccentric sections 12A, 12A of crank shaft 12 (see, Itakura, column 7, line 14, for the embodiment shown in Fig. 3), but does not disclose their relationship to each other. At best, the invention disclosed in Itakura motivates one of ordinary skill in the art to provide one bell crank 28 with two sets of upper arms 28A, 28A attached to two eccentric sections 12A, 12A with two connecting rods 11, 11. Given that configuration, the two eccentric sections 12A, 12A must operate with each other and not opposing each other. Thus, Itakura does not disclose two eccentric parts operably opposing each other about a rotation center of said crankshaft, as set forth in claim 16.

Furthermore, regarding claim 16, Itakura does not disclose "said connecting rods effective to transfer said driving displacement to said middle links at said second ends" and "said upper links operably joined to said middle link at a center fulcrum point between said first and second ends." However, the Examiner contends that the link that serves as Itakura's middle link includes second connection pin 23 (serving as a fulcrum point, as contended by the Examiner). However, Itakura's links (lower arm 8B or middle link 6) that connect to the second connection pin 23 do not connect to Itakura's connecting rod 11, as set forth in claim 16. Thus, Itakura does not disclose connecting rods effective to transfer the driving displacement to the second ends of the middle links, as set forth in claim 16.

Regarding claims 6 and 16, the Examiner further contends that Itakura discloses "a center fulcrum point on said first middle link" as set forth in the claimed invention. However, Itakura does not disclose a link with a center fulcrum point and also does not disclose a link connected to a center fulcrum point of another link.

Thus, for at least the aforementioned reasons, Itakura fails to disclose all of the elements of the present invention, as set forth in claims 6 and 16.

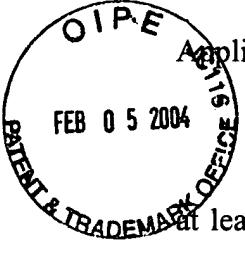
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Claims 17 and 18 depend from claim 16 and are therefore also patentable over Itakura for at least the same reasons. Additionally, regarding claim 17, Itakura does not disclose a single adjusting means "permitting adjustment of a stroke of said slide," as set forth in the claimed invention. As described above with reference to claim 1, Itakura does not disclose that the stroke of the slide is adjustable. Thus, for at least the aforementioned reasons, Itakura fails to disclose all of the elements of the present invention, as set forth in claims 6 and 16-18.

Based on the foregoing, the rejections of claims 6 and 16-18 under 35 U.S.C. § 103(a) should be withdrawn, and reconsideration is respectfully requested.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If there are any other issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Dated: February 5, 2004

Respectfully submitted,

By 
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